

**AMENDMENTS TO THE CLAIMS:**

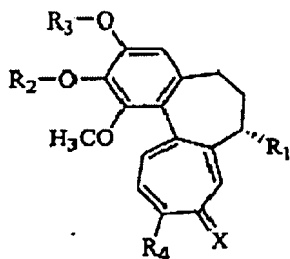
This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of the Claims:**

1-11. (Canceled)

12. (New) A tricyclic derivative represented by the following <Formula 1> or pharmaceutically acceptable salts thereof:

<Formula 1>



wherein

(1)  $R_1$  is  $-T_1-B_1$ ;

wherein

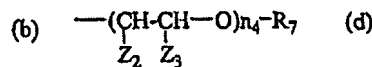
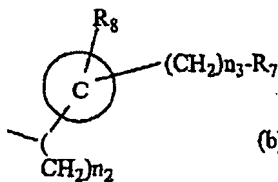
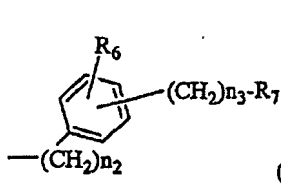
$T_1$  is  $-X_1-$ ,  $-X_1-C(X_2)-$ ,  $-N(R_5)-$ ,  $-N(R_5)C(X_2)-$ ,  $-N(R_5)S(O)_{n_1}-$ ,  $-N(R_5)C(O)-X_1-$  or  $-N(R_5)C(X_1)NH-$ ,

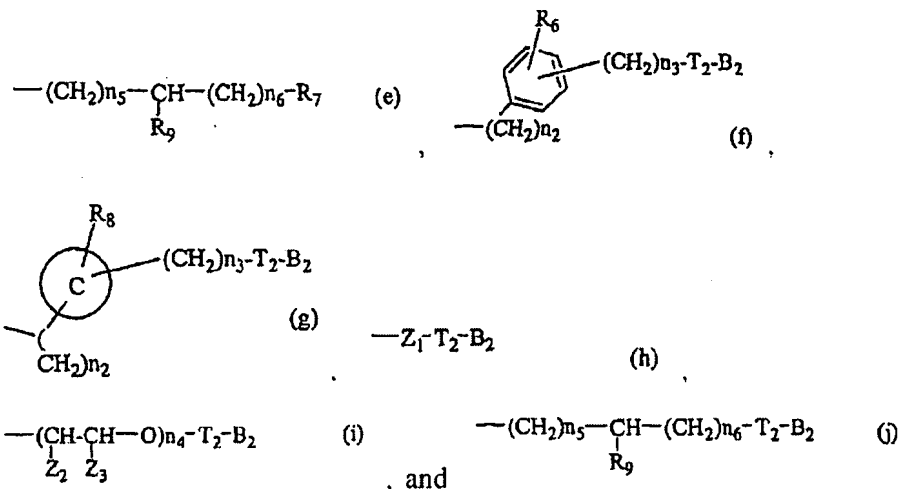
wherein

$X_1$  and  $X_2$  are O or S; and

$R_5$  is H or  $C_1 \sim C_5$  alkyl group,  $n_1$  is an integer of 1~2; and

$B_1$  is selected from the group consisting of

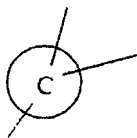




wherein,

R<sub>6</sub> and R<sub>8</sub> are each H, halogen, hydroxy, C<sub>1</sub>-C<sub>3</sub> alkoxy, amino, nitro, cyano or C<sub>1</sub> ~ C<sub>3</sub> lower alkyl group;

R<sub>7</sub> is mercapto, -ONO, -ONO<sub>2</sub> or SNO, and R<sub>9</sub> is halogen, hydroxyl, mercapto, -ONO, ONO<sub>2</sub> or SNO, in which R<sub>7</sub> and R<sub>9</sub> are same or different;



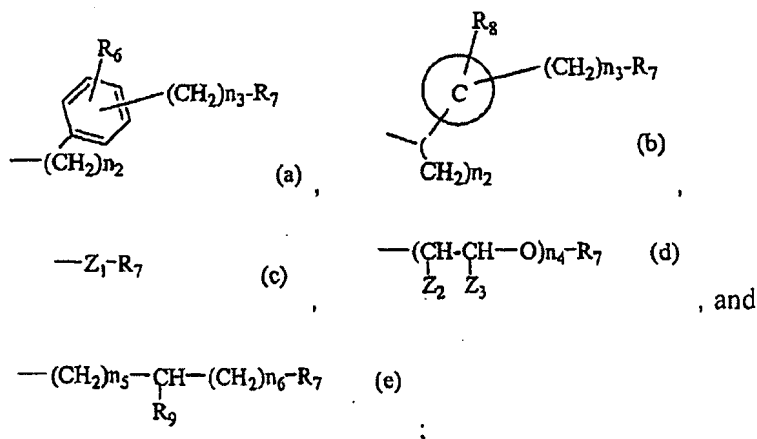
is a C<sub>5</sub>-C<sub>6</sub> membered saturated or unsaturated heterocyclic ring containing 1~2 of hetero atom, in which the hetero atom is selected from a group consisting of O, S and N;

Z<sub>1</sub> is C<sub>1</sub>-C<sub>10</sub> straight-chain or branched-chain alkyl group;

Z<sub>2</sub> and Z<sub>3</sub> are each independently H or methyl group, in which Z<sub>3</sub> is H when Z<sub>2</sub> is methyl group, Z<sub>2</sub> is H when Z<sub>3</sub> is methyl group;

T<sub>2</sub> is -X<sub>1</sub>- or -X<sub>1</sub>-C(X<sub>2</sub>)-, in that X<sub>1</sub> and X<sub>2</sub> are each independently O or S;

B<sub>2</sub> is selected from the group consisting of:



$n_2$  is an integer of 0-3;

$n_3$  is an integer of 1-5;

$n_4$  is an integer of 1-5; and

$n_5$  and  $n_6$  are each independently an integer of 1-6;

(2)  $\text{R}_2$  and  $\text{R}_3$  are each independently H,  $\text{---PO}_3\text{H}_2$ , phosphonate, sulfate,  $\text{C}_3\text{---C}_7$  cycloalkyl,  $\text{C}_2\text{---C}_7$  alkenyl,  $\text{C}_2\text{---C}_7$  alkynyl,  $\text{C}_1\text{---C}_7$  alkanoyl,  $\text{C}_1\text{---C}_7$  straight-chain or branched-chain alkyl or sugar, in which sugar is a monosaccharide such as glucuronyl, glucosyl or galactosyl;

(3)  $\text{R}_4$  is  $\text{OCH}_3$ ,  $\text{SCH}_3$  or  $\text{NR}_{10}\text{R}_{11}$ , in which  $\text{R}_{10}$  and  $\text{R}_{11}$  are each independently H or  $\text{C}_{1-5}$  alkyl; and

(4) X is O or S.

13. (New) The tricyclic derivative or pharmaceutically acceptable salts thereof as set forth in claim 12, wherein

$\text{T}_1$  is  $\text{---N}(\text{R}_5)\text{C}(\text{X}_2)\text{---}$ ,  $\text{---N}(\text{R}_5)\text{C}(\text{O})\text{---X}_1\text{---}$  or  $\text{---N}(\text{R}_5)\text{C}(\text{X}_1)\text{NH---}$ , wherein  $\text{X}_1$  and  $\text{X}_2$  are each O,

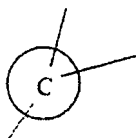
$n_4$  is an integer of 1-3;

$n_5$  and  $n_6$  are each independently an integer of 1-3;

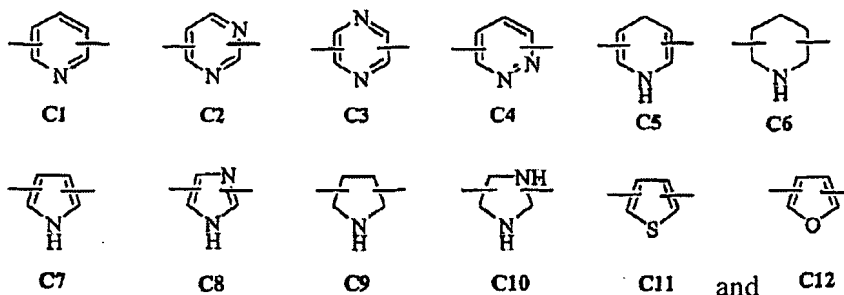
$\text{R}_2$  and  $\text{R}_3$  are each independently  $\text{C}_3\text{---C}_7$  cycloalkyl or  $\text{C}_1\text{---C}_7$  alkyl; and

$\text{R}_4$  is  $\text{SCH}_3$  or  $\text{OCH}_3$ .

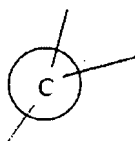
14. (New) The tricyclic derivative or pharmaceutically acceptable salts thereof as set forth in claim 12, wherein



is selected from the group consisting of



15. (New) The tricyclic derivative or pharmaceutically acceptable salts thereof as set forth in claim 12, wherein



is selected from the group consisting of C1 (pyridyl group) substituted at position 2 and 6 or position 2 and 5, C7 (pyrrolyl group) substituted at position 2 and 5 or position 2 and 4, C11 (thiophenyl group) and C12 (furanyl group).

16. (New) The tricyclic derivative or pharmaceutically acceptable salts thereof as set forth in claim 12, wherein  $Z_1$  is  $C_2 \sim C_5$  straight-chain or branched-chain alkyl group or cycloalkyl group having substituent.

17. (Previously Presented) A tricyclic derivative or pharmaceutically acceptable salts thereof, wherein the tricyclic derivative comprises:

1)

6-nitrooxymethyl-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-nicotineamide;

2) 5-nitrooxymethyl-furan-2-carboxylic

acid-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-amide;

5) 6-nitrooxymethyl-pyridine-2-carboxylic

acid-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-amide;

6) 5-nitrooxymethyl-thiophene-2-carboxylic

acid-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-amide;

8)

N-[(7S)-3-ethoxy-1,2-dimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-2-fluoro-3-nitrooxymethyl-benzamide;

9)

2-fluoro-N-[(7S)-3-isopropoxy-1,2-dimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-3-nitrooxymethyl-benzamide;

10)

2-fluoro-3-nitrooxymethyl-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-benzamide;

11)

N-[(7S)-3-cyclopentyloxy-1,2-dimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-2-fluoro-3-nitrooxymethyl-benzamide;

12)

3-fluoro-5-nitrooxymethyl-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-benzamide;

13)

N-[(7S)-3-ethoxy-1,2-dimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-3-fluoro-5-nitrooxymethyl-benzamide;

14)

3-fluoro-N-[(7S)-3-isopropoxy-1,2-dimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-5-nitrooxymethyl-benzamide;

15)

N-[(7S)-3-cyclopentyloxy-1,2-dimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-3-fluoro-5-nitrooxymethyl-benzamide;

16)

4-fluoro-3-nitrooxymethyl-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-benzamide;

17)

2-fluoro-5-nitrooxymethyl-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-benzamide;

18)

3-hydroxy-5-nitrooxymethyl-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-benzamide;

19)

3,5-bis-nitrooxymethyl-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-benzamide;

20)

2-hydroxy-4-nitrooxymethyl-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-benzamide;

21) 4-nitrooxymethyl-thiophene-2-carboxylic acid

[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-amide;

22) 3-nitrooxymethyl-thiophene-2-carboxylic acid

[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-amide;

25) 3-nitrooxybenzoic

acid-5-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl-carbamoyl]-pyridine-2-yl-methylester;

26) 4-nitrooxybutyric

acid-5-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl-carbamoyl]-pyridine-2-yl-methylester;

27) 3-nitrooxymethyl-benzoic

acid-6-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl-carbamoyl]-pyridine-2-yl-methylester;

28) 4-nitrooxybutyric

acid-6-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl-carbamoyl]-pyridine-2-yl-methylester;

29) 3-nitrooxymethyl-benzoic

acid-2-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl-carbamoyl]-phenylester;

30) 4-nitrooxybutyric

acid-2-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl-carbamoyl]-phenylester;

31) 3-nitrooxymethyl-benzoic

acid-3-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl-carbamoyl]-phenylester;

32) 4-nitrooxybutyric

acid-3-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl-carbamoyl]-phenylester;

33) 3-nitrooxymethyl-benzoic  
acid-3-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl-carbamoyl]-benzylester;

34) 4-nitrooxybutyric  
acid-3-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl-carbamoyl]-benzylester;

37)  
3-fluoro-5-nitrosooxymethyl-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-benzamide;

39)  
3-fluoro-5-nitrosothiomethyl-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-benzamide;

40)  
3-fluoro-5-nitrooxymethyl-N-[(7S)-1,2,3,10-tetramethoxy-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-benzamide;

42)  
3-fluoro-N-methyl-5-nitrooxymethyl-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-benzamide;

43)  
2-(3-fluoro-5-nitrooxymethyl-phenyl)-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-acetamide; or

44)  
2-(2-fluoro-5-nitrooxymethyl-phenyl)-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-acetamide.

18. (New) An anticancer agent composition or anti-proliferation agent composition comprising the tricyclic derivatives-or pharmaceutically acceptable salts thereof as set forth in claim 12 as an effective ingredient and a pharmaceutically acceptable excipient.



19. (New) An angiogenesis inhibitor composition comprising the tricyclic derivatives or pharmaceutically acceptable salts thereof as set forth in claim 12 as an effective ingredient and a pharmaceutically acceptable excipient.
20. (New) An anticancer agent composition or anti-proliferation agent composition comprising the tricyclic derivatives-or pharmaceutically acceptable salts thereof as set forth in claim 17 as an effective ingredient and a pharmaceutically acceptable excipient.
21. (New) An angiogenesis inhibitor composition comprising the tricyclic derivatives or pharmaceutically acceptable salts thereof as set forth in claim 17 as an effective ingredient and a pharmaceutically acceptable excipient.